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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,690	06/27/2001	Seung Moon Ryu	SHN-0005	3977
23413	7590	01/12/2005	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			DAVIS, CYNTHIA L	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/892,690

Applicant(s)

RYU, SEUNG MOON

Examiner

Cynthia L Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 2 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☒ Claim(s) 3 and 4 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1 and 2, drawn to a method for modulating data, classified in class 375, subclass 312.
  - II. Claims 3 and 4, drawn to a method of measuring distance, classified in class 370, subclass 252.

The inventions are distinct, each from the other because:

Inventions 1 and 2 are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the first invention is drawn to modulation, the second invention is drawn to measuring.

2. During a telephone conversation with a representative of Cantor Colburn, LLP on around 10 AM on December 8, 2004, a provisional election was made without traverse to prosecute invention 1, which is a method for modulating data, as defined by claims 1 and 2. Affirmation of this election must be made by applicant in replying to this Office action. Claims 3 and 4, drawn to invention 2, a method for measuring a distance between two mobile stations, are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Priority***

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3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Objections***

4. Claim 1 is objected to because of the following informalities: in light of figure 4 of the instant specification, the use of the term "truncating" in line 6 of page 15 is unclear. Truncating implies cutting off the level of the signals, which does not occur anywhere in figure 4. A clearer term would be "equalizing." Appropriate correction is required.

***Allowable Subject Matter***

5. The following is a statement of reasons for the indication of allowable subject matter:

a method for modulating data for a polarity alternated pulse width code division multiple access system, the method comprising: multiplying CDMA signals inputted from multiple channels by a mask pattern selected among predetermined mask patterns that have the least peak value; reducing the level number of signals by truncating multiplied CDMA signals according to a predetermined magnitude of levels; converting the level number-reduced signals to pulse width signals to generated modulated signals having a constant level; and alternately switching a starting polarity of the pulses of the modulated signals between "high" and "low"

is missing from the prior art.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Padovani discloses in figures 8a-8c and column 11, lines 11-12, various mask patterns tailored for different types of communication channels. Crespo

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discloses in column 2, lines 41-42, truncating CDMA signals in the time window to obtain pulses. Dent discloses in column 1, lines 23-26, that alternating the polarity of signals is part of a standard CDMA system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLD  
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HUY D. VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600